

KOZHANOV, K.Ya., kand.tekhn.nauk (g.Minsk)

Drainage modulus in reclaimed swamps and waterlogged mineral soils.
Gidr. 1 mel. 13 no.6:28-38 Je '61. (MIRA 14:6)
(Drainage)

KOZHANOV, K. Ya., kand. sel'skokhoz. nauk

Drainage and irrigation norms for swamps on the data of a
study of the moisture balance of root bed. Gidr. i mel. 16
no.11:41-45 N '64 (MIRA 18:2)

1. Belorusskiy nauchno-issledovatel'skiy institut melioratsii
i vodnogo khozyaystva.

KOZHANOV, M.G., inzhener; ROGOV, G.B., inzhener.

The use of compressed air to intensify the flame jet in open-hearth
furnaces. Metallurg no.7:18-19 J1 '56. (MLRA 9:9)

1. Magnitogorskiy metallurgicheskiy kombinat.
(Open hearth furnaces) (Compressed air)

VORONOV, F.D.; TRIFONOV, A.G.; KHUSID, S.Ye.; DIKSHEYN, Ye.L.; VAL'PITER, E.V.
SNEGIREV, Yu.B.; ANTIPIN, V.G.; Primali uchastiye: SMIRNOV, L.A.;
KAZAKOV, A.I.; YELIZAROV, A.G.; KULAKOV, A.M.; KOZHANOV, M.G.;
ZARZHITSKIY, Yu.A.; ARTAMONOV, M.P.; GOL'DENBERG, I.B.; ROMANOV,
V.M.; NOVIKOV, S.M.; MAYEVSKIY, A.B.; DMITRIYEV, I.; MANZHULA, M.;
BEREZOVY, I.A.; ZUTS, K.A.; BADIN, S.N.; TATARINTSEV, G.;
MITROFANOV, N.G.; GAVRILOVA, K.M.; IVANOV, N.I.

Operating a 400-ton open-hearth furnace on casing-head gas.

Stal' 20 no. 7:594-598 J1 '60.

(MIRA 14:5)

(Open-hearth furnaces--Equipment and supplies)

5/133/61/000/002/011
A054/A033

AUTHORS: Dikshteyn, Ye. I.; Goncharevskiy, Ye. A.; Luts, K.A.; Antipin, V. G.; Kozhanov, M. G.; Zarzhitskiy, Yu. A.; Kulakov, A. M.;

TITLE: Mastering the operation of a 500-ton open-hearth furnace fired by coke-oven gas and mazut

PERIODICAL: Stal', no. 3, 1961, 210 - 211

TEXT: The 500-ton open-hearth furnace designed by the "Stal' proyekt" operates according to the scrap-ore process and is fired by cold coke-gas (0.100 cal/m^3) and mazut (9600 cal/kg). The principal data of the furnace are: charge 500 - 550 tons, hearth area 105 sq m, depth of the bath 1.2 m, height (over the altar level) of the crown 3.15 m, of the air partition 1.35 (1.2) m, of the burner axis 1.30 (1.6) m, useful volume of slag chamber $1/2 \text{ m}^3$, stack height 90 m. The results obtained by the furnace design and firing system could be improved by incorporating several modifications. For instance, there are two gas-mazut burners, one on either side of the furnace. This is a simple structural solution but did not prove very effi-

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Metering the operation of a

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A05h/A033

cient. By applying two or three burners on either side of the furnace this situation could be improved. The Blast produced is not enough to ensure the heat conditions required. The vacuum produced by the stack and wasteheat boiler (60 and 75 mm water column, respectively) is inadequate to efficiently evacuate the gaseous combustion products from the operating area of the furnace. The efficiency of the blast system is unfavourably affected by losses in the cold-air exhaustion system through the slag chambers, which require a better insulation. The heat transfer capacity of the torch was also unsatisfactory. Carbon monoxide in the combustion products in the vertical channel already disappeared when there was 2 - 3.5 % oxygen present, indicating an inadequate mixing of fuel and air. In order to improve the mixing and radiation capacity of the torch, compressed air was introduced separately through a special tube. This, however, did not solve the problem and had to be put down to the wrong type of feed-opening. Tests were also carried out to raise the heating capacity of the torch by improving the operation of the pulverizer, by means of increasing its capacity, i.e., the consumption of high-pressure steam in the pulverizer. The radiation capacity of the torch for cold coke-gas and mazut depends largely on the ratio at which these two fuels are consumed. For the furnace in question the optimum

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condition for the torch was obtained when 1700 - 1800 kg/h mazut was consumed and when the thermal load of the furnace amounted to 40 mill. cal/h, (Fig. 6). Tests carried out to improve the furnace operation by increasing the heat load to 50 mill. cal/h only resulted in greater wear, without improving the operational conditions. Actual improvement was obtained by decreasing heat losses through the stoke holes, amounting to 2 mill.cal/h, by a suitable insulation and by feeding 1800 - 2000 Hm³/h compressed air into the torch, thus increasing its temperature to 1850°C and distributing it more uniformly along the torch. By increasing the heating capacity of the torch, the time required for the optimum heating of the charge and for burning out carbon was reduced. By intensifying the thermal conditions of the furnace, desulfurization became more intensive and it was possible to smelt O8A7 (O8kp) grade steel in the furnace. Although the reconstruction of the furnace and the application of modifications improved and stabilized the operation of the 500-ton mixed fuel furnace, the burner system will still have to be modified and a suitable method to be applied for preparing the gas, in order to change over from mixed fuel to gas-firing only. There are 9 figures and 2 tables.

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S/193/61/000/006/001/007
A004/A104

AUTHORS: Dikshteyn, Ye. I.; Antipin, V. S., and Kozhanov, M. G.

TITLE: The operation of open-hearth furnaces with single-channel ports

PERIODICAL: Byulleten' tekhniko-ekonomicheskoy informatsii, no. 6, 1961, 3-6

TEXT: One of the plants of the Russian Federation has introduced 500-ton open-hearth furnaces with single-channel ports fuelled by a mixture of cold coke gas and mazout. The furnaces are operated on the scrap-ore process utilizing 65% of liquid pig iron. They are lined with basic refractories, slag pocket and regenerator roofs are of the massive suspension type. The coke oven gas with a calorific value of 4,100 kcal/nm³ is supplied through a 400 mm diameter gas pipeline at a pressure of 3,000 mm water column to the burners with a reduced pressure of 1,000-1,500 mm water column. The mazout with a calorific value of 9,600 kcal/hour, containing 0.5-1.5% sulfur, is supplied to the furnace at a pressure of 6-7 atm. The mazout is atomized at a pressure of 10 atm and a temperature of 200°C. Reversible dampers of the Shvir system 2,200 mm in diameter are used which do not fully meet the requirements of modern big-volume open-hearth furnaces, but, according to the authors, hitherto no more expedient type of damper has been

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developed. Fig. 1 shows the structural changes which have been carried out to improve the furnace operation. Legend to Fig. 1: 1) prior to repair; 2) after repair; 3) gas-mazout burner installation. The heat losses through the breast were reduced nearly by a factor of 4 and amounted to $0.5 \cdot 10^6$ kcal/hour. The compressor air pressure was raised from 2 to 5 atm. As a result of these alterations the absolute flame temperature increased by 50°C and more, while the maximum heating zone moved nearer to the flame root. Tests showed that it is necessary to supply 1,800 - 2,000 m^3 air per hour. The modernization of the port made it possible to increase the furnace efficiency by 15.6% and cut down the heat consumption for the steel production by 19.5%. A great influence on the efficacy of the gas-mazout flame of open-hearth furnaces with single-channel ports is exerted by the height of the air damstones and by the angle of inclination of the burners. Various angles in the range of $8-13^\circ$ relative to the bath level were tested and it was found that the maximum heat transfer was obtained with great angles of inclination of the burners. On one of the furnaces the burner design was altered in such a way that the mazout was not supplied through a sprayer located in the center of the gas burner but through two sprayers cut in the body of the breast, which resulted in a higher flame radiation. The table shows the distribution of thermal loads during the different heating periods prior to the

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The operation of open-hearth furnaces ...

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alterations of the port design and after.

Table:

1) operation; 2) prior to port alteration; 3) after port alteration;
4) filling; 5) charging; 6) heating up; 7) pig iron pouring and 1st hour
of melting; 8) melting; 9) end of melting; 10) finishing.

1) Операции	До изменения 2) головок	После измене- ния головок
4) Заправка	32.10 ⁶	—
5) Завалка	40.0.10 ⁶	48.10 ⁶
6) Прогрев	40.0.10 ⁶	44.10 ⁶
7) Слив чугуна и 1-й час плавления . .	38.0.10 ⁶	40.10 ⁶
8) Плавление	34.0.10 ⁶	36.10 ⁶
9) Конец плавления	36.0.10 ⁶	—
10) Доводка	38.0.10 ⁶	40.10 ⁶

The maximum flame radiation is attained at a heat consumption of mazout of 42-45% relative to the total thermal load. After the port design had been altered the heating capacity of the furnace increased, which made it possible to cut down the heating up period of the charge prior to the pig iron pouring from 2 to 1.5 hours. Increasing the thermal loads, the optimum values for the coefficients of

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The operation of open-hearth furnaces ...

excess air in the supply ports during the melting process were determined as follows: filling - 1.20; heating up - 1.20; pig iron pouring - 1.50; melting - 1.40; finishing - 1.10-1.05. The regenerator checkers of open-hearth furnaces operating on cold coke gas have to be systematically cleaned and the dust removed from the sub-checker space. With rapid charging, i. e. in less than 2 hours, it is expedient to increase the thermal load during this period up to $48 \cdot 10^6$ kcal/hour. There are 2 figures and 1 table.

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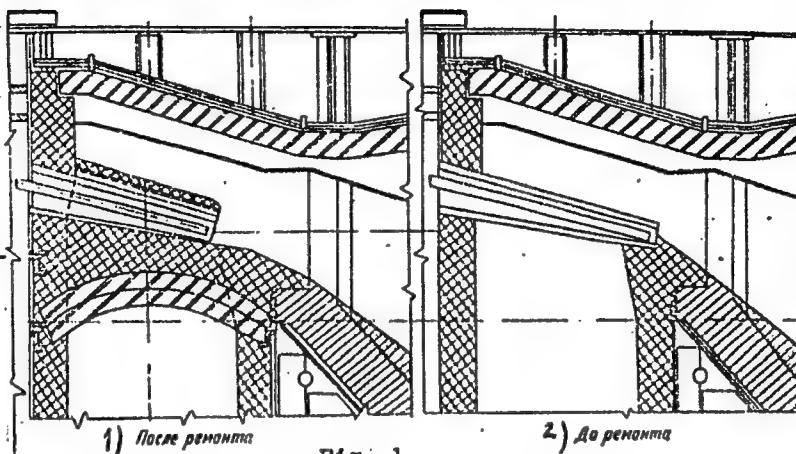


Fig. 1

Рис. 1. Установка газомасляной горелки 3)

KOZHANOV, M.G.; RASHEVICH, A.Ya.; KAZAKOV, A.I.; KULAKOV, A.M.

Washing the regenerator checkerwork of large-capacity open-hearth furnaces. Metallurg 6 no. 1:17-18 Ja '61. (MIRA 14:1)

1. Magnitogorskiy metallurgicheskiy kombinat.
(Open-hearth furnaces—Maintenance and repair)

KOZHANOV, M.G.; NECHKIN, M.G.; ANTIPIN, V.G.; PONOMAREV, Yu.Yu.

Rapid fritting of new bottoms in large-capacity open hearth
furnaces. Metallurg 7 no.9:13-15 S '62. (MIRA 15:9)

1. Magnitogorskiy metallurgicheskiy kombinat.
(Open-hearth furnaces--Maintenance and repair)

GONCHAREVSKIY, Ya.A.; ANTIPIN, V.G.; OVCHINNIKOV, G.Ye.; KOZHANOV, M.G.

Operation of high-capacity open-hearth furnaces with single-channel ports. Stal' 22 no.8:705-709 Ag '62. (MIRA 15:7)

1. Magnitogorskiy metallurgicheskiy kombinat.
(Open-hearth furnaces)

VORNOV, F.D.; BIGEYEV, A.M.; DIKSHEYN, Ye.I.; TRIFONOV, A.G.; KAZAKOV.
A.I.; KOROLEV, A.I.; BORODIN, G.L.; ANTIPIN, V.G.; KULAKOV, A.M.;
KOZHANOV, M.G.; GAZHUR, V.F.

Investigating the operation of 400-ton open-hearth furnaces
following redesign. Stal' 22 no.10:904-907 0'62. (MIRA 14:10)

1. Magnitogorskiy metallurgicheskiy kombinat i Magnitogorskiy
gorno-metallurgicheskiy institut.
(Open-hearth furnaces)

ROZUMOV, V. M.

Rozumov, V. M. "On the question of the role of the Soviet Union in the development of the world economy", in: "Soviet Union and the World Economy", Moscow, 1971, No. 1, p. 1-10.

So: 3-3063, 1 April 71, (Leningrad Journal "Izvestiya", No. 1, p. 10).

K. OZHANOV, M. N.

KOZHANOV, M.N., inzh.; SHATROV, S.M., inzh.

The bunkerless loading of coal. Mekh. trud. rab. 11 no. 10:28 0 '57.
(Coal mines and mining) (MIRA 10:11)

KUZ'MENKO, M.V.; KOZHANOV, S.I.

"Karnasurtit," a new mineral. Trudy Inst.min., geokhim.i kristalokhim.-
red.elem. no.2:95-98 '59. (MIRA 15:4)
(Minerals)

KOZHANOVA, A.A.

Self-knotter for staple yarn. Tekst.prom. 20 no.2:80-81
F '60. (MIRA 13:6)

1. Nachal'nik normativnoy laboratorii po trudu Upravleniya
legkoy promyshlennosti Khersonskogo sovnarkhoza.
(Looms)

LEBEDEV, Anatoliy Alekseyevich, prof.; KOZHANOVA, Lidiya Savel'yevna;
RYKUNOV, Yermingel'd Ivanovich; SINITSYNA, Mariya Andreyevna;
CHEKANOVA, V.I., red.; VORONINA, R.K., tekhn. red.

[Physiological bases for the prevention of complications in antenatal fetal development; a manual on the overall preparation of pregnant women for labor] Fiziologicheskie osnovy profilaktiki oslozhnenii antenatal'nogo razvitiia ploda; posobie po kompleksnoi podgotovke beremennykh k rodam. Moskva, Vysshaya shkola, 1962. 81 p. (MIRA 15:7)

(PRENATAL CARE)

POROSHINA, A.A., kand.med.nauk; SOKOLOVA, L.P.; KOZHANOVA, L.A.

Comparative characteristics of the correlation of protein fractions in the blood serum in schizophrenia, involutional psychosis and cyclothymia. Vrach. delo no.5:91-94 My '62.

(MIRA 15:6)

1. Kafedra psikhatrii (zav. - prof. H.H. Korganov [deceased])
i kafedra biokhimi (zav. - prof. Ye.M. Gutarev) Rostovskogo-na-Donu meditsinskogo instituta.

~~psikh~~(BLOOD PROTEINS)
(MANIC-DEPRESSIVE PSYCHOSES)

(SCHIZOPHRENIA)
(PSYCHOSES)

KOZHANOVA, N.I.

Preservation of local grape varieties in the Rostov Province.

Kons. i ov.prom. 18 no.10:15-18 0 '63. (MIRA 16:11)

1. Rostovskiy filial nauchno-issledovatel'skogo instituta trgovli
i obshchestvennogo pitaniya.

KOZHANOVA, N.I.

Preservation of local grape varieties in the Rostov Province.
Kons. i ov.prom. 18 no.10:15-18 0 '63. (MIRA 16:11)

1. Rostovskiy filial nauchno-issledovatel'skogo instituta trgovli
i obshchestvennogo pitanya.

KOZHANOVA, N.I.
STEPANOVA, K.D.; KOZHANOVA, N.I.

Characteristics of the distribution of herbaceous vegetation and
soils in Sakhalin. Soob. Sakhal. kompl. nauch.-issl. inst. AN
SSSR no.5:87-96 '57. (MIRA 10:12)
(Sakhalin--Crops and soils)

ZOZ, J.N.; MAKAROVA, S.I.; KOLODNYI, P.V.; SALINIKOVA, E.V.; KOSHENKOVA, N.N.;
GRIGOROVA, N.V.

wheat mutations induced by chemical mutagens. Dokl. AN SSSR 163 no.1:
224-226 J1 '65. (MIRA 18:7)

L. Institut khimicheskoy fiziki AN SSSR. Submitted December 28,
1964.

ZOZ, N.N.; MAKAROVA, S.I.; KOLOTENIKOV, P.V.; SAL'NIKOVA, T.V.; KOZHANOVA,
N.N.; GRIGOROVA, N.V.

Variation in wheat, induced by chemical mutagens, in the first
generation after treatment. Dokl. AN SSSR 159 no.4:915-917
D '64 (MIRA 18:1)

1. Institut khimicheskoy fiziki AN SSSR. Predstavleno akademikom
N.V. TSitsinym.

KOZ HANOV, N.S.

topography, hydrology, geomorphology, and climatology. The results of the conference are published in the journal "Problems of Hydrology-Geodynamics and Stream Dynamics". Volumes of the conference on hydrogeodynamics, 1969, 2-10 July 1969, Moscow, 1969, 117 pp.

The majority of the texts of the 55 conference reports and discussions of reports are included in the present book in abbreviated form. Previously published reports are included in the book in brief abstracts only. The material published there for the first time (abstracts and unabbreviated) are as follows:

"Similarity Methods and Physical Modeling in the Study of Electromagnetic Processes in Liquid Metals." By I. N. Kikha, Ye. Ye. Kikha, and D. A. Zaslavskiy, Moscow, 1969, p. 211; Discussion on the Report by I. N. Kikha, Moscow, 1969, p. 211-212.

(Abstract of article, "Model of an infinitely long channel with liquid metal located in a transverse magnetic field," by I. N. Kikha, Ye. Ye. Kikha, and D. A. Zaslavskiy, Moscow, 1969, p. 211; Discussion on the Report by I. N. Kikha, Moscow, 1969, p. 211-212.)

"Principles of Modeling the Electrical Field of Electromagnetic Fields in an Electrolytic Cell and an Electrically Conductive Body." By I. N. Kikha, Moscow, 1969, p. 221-223; (Discussion of Article by I. N. Kikha, Moscow, 1969, p. 223).

(Abstract of article, "The Motion of a Sphere in a Viscous Conducting Liquid Within a Longitudinal Magnetic Field," by A. N. Kikha, Moscow, 1969, p. 221; Discussion of Article by A. N. Kikha, Moscow, 1969, p. 221-223.)

"Experimental Investigation of the Hydrodynamic Resistance of a Sphere in a Viscous Conducting Liquid Within a Longitudinal Magnetic Field." By A. N. Kikha, Moscow, 1969, p. 221-223; Discussion of Article by A. N. Kikha, Moscow, 1969, p. 221-223.

"On the Behavior of Colloidal Ferroelectric Particles in a Rotational Magnetic Field." By E. I. Terent'ev, Moscow (abstract), p. 231.

"Study of Magnetic Fields and Electromagnetic Processes in Linear Induction Pumps." By A. I. Tolstov, Tallin, 1969, p. 237-246.

"Choice of Basic Parameters of Induction Pumps in the Calculation of Natural Efficiency." By E. I. Tolstov, Moscow, 1969, p. 247-250; discussion of report by E. I. Tolstov, Moscow, 1969, p. 251.

"Optimum Utilization of Induction Pump Design." By E. I. Tolstov, Moscow, 1969, p. 251-260.

"Experience in the Design of Electromagnetic Pumps at the Institute of Physics of the Academy of Sciences Latvian SSR." By P. O. Alksnis, Riga, 1969, p. 261-269; discussion of report by P. O. Alksnis, Riga, 1969, p. 269.

"On the Use of Induction Pumps in Family Practice and in Medical Instrumentation." By L. A. Verbitskiy, Moscow (abstract), p. 271.

KOZHANOVA, Z. Ye., inzh.

Use of 2,4-D for clearing underbrush along electric power transmission
lines. Enertetik 9 no.5:29-32 My '61. (MIRA 14:5)
(Electric lines—Overhead)

KOZHANOVA, Z.Ye., inzh.; KOZHEMYAKIN, V.G., kand.tekhn.nauk;
NAUMOVSKIY, L.D., inzh.; TSIREL', Ya.A., inzh.

Decrease in the width of the clearing along overhead power
transmission lines. Elek. sta. 34 no.1:43-45 Ja '63.

(MIRA 16:2)

(Electric lines—Overhead)

KOZHANTSHIKOV, I. V.

USSR/Medicine - Flies
Medicine - Nutrition

Mar 1945

"Nutritional Value of Proteins in the Growth of
the Blow-Fly Larvae," I. V. Kozhantshikov, Inst
Zool, Acad Sci USSR, Leningrad, 7 pp

"Entomologicheskoye Obozreniye" Vol XIVIII, No 3/4

Proteins of different vertebrata and those of some
insect species were studied under constant thermal
conditions at an optimum temperature (20°). Pro-
teins of birds inhibit growth of larvae; proteins
of amphibians and fishes inhibit growth and in-
crease larval mortality.

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~~COZHANY, P.~~

In an apartment house office working without deficit. Zhil.-kon.
khos. 7 no.3:12-13 '57. (MLRA 10:4)

(Moscow--Apartment houses--Management)

KOZHANYI, P.M.

Instead of reprimands and sermons. Zdorov'e 3 no.1:27 Ja '57.
(SMOKING) (MIRA 10:2)

KOZHAR, L. L.

37468. Morfologiya Endoteliya Limfaticeskikh Sosudov U Loshad.
Lit. Obsor. Uchen. Zapiski Viteb. Vet. In-ta, t. IX, 1949, s. 100-02.--
Bioliogr: 15 Nazv.

SO: Letopis' Zhurnal'nykh Statey, Vol. 7, 1949

KOZHAR, L.L.

Endothelial lining of the thoracic duct in a horse. Arkh.anat.,
gist. i embr. 36 no.6:83-85 Je '59. (MIRA 12:9)

1. Kafedra gistologii i embriologii Vitebskogo veterinarnogo
instituta (zav. - dotsent L.L.Kozhar). Adres avtora: BSSR,
Vitebsk, ul.1-ya Dovatora, d.7/11. Veterinarnyy in-t, kafedra
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(THORACIC DUCT, anat. & histol.
endothelium in horse (Rus))

(HORSES,
thoracic duct endothelium (Rus))

BROYDO, A.G.; KOZHAR, S.L.

Evaluating the accuracy of a station method for calculating thermal
diffusivity coefficients of soils. Trudy GGO no.77:95-98 '58.

(MIRA 12:4)

(Soil temperature)

KOZHARA, V.L.

Some characteristics of water migration of chemical elements in
permafrost regions in connection with hydrogeochemical prospecting.
Trudy IGEM no.99:122-135 '63. (MIRA 16:9)
(Geochemistry)

KOZHARA, V.L.

Litochemical and biogeochemical prospecting in permafrost.
Razved. i okh. nedr. 30 no.3:13-19 Mr '64 (MIRA 18:1)

1. Institut geologii rudnykh mestorozhdeniy, petrografii, mineralologii i geokhimii AN SSSR.

KOZHARA, V. L.

BELEVTSSEV, Yakov Nikolayevich; BURA, Galina Georgiyevna; DUBINKINA, Raisa Pavlovna; YEPATKO, Yuriy Mikhaylovich; ISHCHENKO, Dmitriy Ivanovich; MEL'NIK, Yuriy Petrovich; STRYGIN, Aleksey Il'ich. Prinimali uchastiye: KOZHARA, V.L.; KRAVCHENKO, V.M.; TAKHTUYEV, G.V.; SHCHERBAKOVA, K.F.; RODIONOV, S.P., otv.red.; ZAVIRYUKHINA, V.N., red. izd-va; YEFIMOVA, M.I., tekhn.red.

[Genesis of iron ores in the Krivoy Rog Basin] Genesis zheleznykh rud Krivorozhskogo basseina. Kiev, Izd-vo Akad.nauk USSR, 1959. 306 p. (MIRA 13:2)

1. Chlen-korrespondent AN USSR (for Rodionov).
(Krivoy Rog Basin--Iron ores)

KOZHARA, V.L.; KRAVCHENKO, V.N. [Kravchenko, V.M.]

Genetic types of ores in the northern Saksagan' deposit. Geol. zhur.
20 no. 4:35-44 '60. (MIRA 14:4)
(Saksagan' region—Ore deposits)

KOZHARIN, A.S.; RAKHLIN, E.L.

System for automatic preparation and supply of lacquer to machine tools in wire enameling shops. Energ. i elektrotekh. prom. no.2: 15-17 Ap-Je '62. (MIRA 15:6)

1. Zavod "Yuzhkabel".
(Electric wire and cable industry)

YEMEL'YANOV, A.V.; KOZHARIN, B.K.

Effect of transformer circuit diagrams on the operation of mercury
converters with nonsymmetry in the a.c. current system. Sbor.rab.
po vop.elektromekh.no.8:83-96 '63.

(MIRA 16:5)

(Electric power distribution--Direct current)

1ST AND 2ND COPIES		PROCESSING AND PROPERTIES INDEX		12	
C 4 KOZHARIN, K.					
<p>Use of aluminum and its alloys in the meat and dairy industry. K. Kozharin. <i>Myslennaya i Molekulyarnaya Prom.</i> 1947, No. 6, 18-19. The Al alloy "AMT-1," Cu < 0.2, Mg < 0.05, Fe < 1.0, Si < 0.1, Zn < 0.1, Sn < 0.1, Mn 1.0-1.6%, is recommended for the manuf. of industrial containers for milk. For bodies of centrifugal pumps for milk, the Al alloy "AL-9," Si 0.5-7.5, Cu 0.2, Mn 0.5, Mg 0.2-0.4, Fe 0.6, Zn 0.1, sum of impurities 0.2%, is authorized. N. Thon</p>					
<p>ASIA-11A METALLURGICAL LITERATURE CLASSIFICATION</p>					
<p>1947-1950</p>					

12

CA KOZHARIN, K.

Balance for the determination of moisture in butter. K. Kozharin. *Mekhanizm Prom.* 9, No. 3, 35-7 (1948). Two- or one-pan balances are shown which can be used for the detn. The sample (10 g.) is weighed directly in the pan, which is then heated over a Bunsen burner until H_2O evapn. is complete (absence of "crackling" noise) and the pan is re-weighed. The ruler scale on the balance is directly graduated to give moisture percentage. G. M. Kozlovskii

ASNT-A METALLURGICAL LITERATURE CLASSIFICATION

KOZHARIN, K.

42400: KOZHARIN, K. Telezhka dlya. transptirovi flyag. moloch prom-st' 1948, No. 11, s 42

SO: Letopis' Zhurnal'nykh Statey, Vol. 47, 1948

KOZHARIN, K.

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1949, No. 10, c . 17-18

SO: Letopis' Zhurnal'nykh Statey, Vol. 45, Moskva, 1949

KOZHARIN, K. (Engr.)

Vologda Province - Butter

Change in the technology of producing Vologda butter. Mol. prom. 13 No. 8, 1952.

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KOZHARIN, V.S.

MATVEYEV, L.T.; KOZHARIN, V.S.

Role of turbulent agitation in forming the structure of stratus
clouds. Part 1. Izv. AN SSSR, Ser. geofiz. no. 11:1338-1353 N '56.
(Clouds) (Atmospheric turbulence) (MLRA 10:1)

Kozharin, V. S.
AUTHOR:

Kozharin, V. S.

TITLE:

Role of Turbulent Exchange in Formation of Spatial and Internal Structure of Stratus Clouds (Rol' turbulentnogo obmena v formirovani prostranstvennoy i vnutrenney struktury oblakov sloistyykh form)

PERIODICAL:

Meteorologiya i Gidrologiya, 1957, No. 2, pp. 3-9 (U.S.S.R.)

ABSTRACT:

The author established that the frictional layer is usually typified by very small Ri (Richardson parameter) values. The subcloud layers and those filled with St-Sc (Ac) and thin Ns-As clouds are also typified by high turbulent energy levels, whereas the strata above these clouds have great Ri-values.

The five tables present the following data: 1. Table 1, page 3 gives mean values of turbulent energy levels and of the parameter, Ri, for various cloud types. 2. Table 2, page 3 shows values for B (a coefficient used here for the frictional layer) as functions of various gamma-values (vertical temperature gradient) and t^0 (air temperature at height $z = 0$). Gamma- and t^0 -values range from 0.40-1.00 and +15 to -15° respectively. Table 3, page 6 lists data for heights 0-1,000 m. based

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Role of Turbulent Exchange in Formation of Spatial and Internal Structure of Stratus Clouds

on soundings at Leningrad, Moscow and Minsk for selected cases of stratus and stratocumulus clouds. Table 4, page 7 presents extensive data on verification results of formula (7) (an empirical formula for calculating cloud height) in comparison with other formulae; the author's formula, (7), yielded the best results with a relative error of 25%. Table 5, page 8, analyzes the relative error as a function of gradient and indicates that maximum errors for all heights are observed in gradations of temperature gradients (under clouds) within the range $0.41-0.60^{\circ}$; the errors abruptly diminish with an increase of the gradients.

There are two figures (actually graphs): Fig. 1, page 4 portrays a vertical cross section of three-layered cloudiness in height range 0-4,000 m. Fig. 2, page 8 shows ratio of water content gradient to t° gradient plotted against mean cloud t° .

Among the 10 formulas presented, the final one is outstanding in that it indicates as a conclusion that the nature of water content distribution in a cloud is dependent on thermic stratification.

In case of gamma greater than 0.20° at 100 m., water content increases with height and the water content gradient is all the greater, the higher the

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Role of Turbulent Exchange in Formation of Spatial and
Internal Structure of Stratus Clouds

t^0 and the larger the t^0 gradient in a cloud. A similar distribution of water content occurs in Ac and in thin Ns-As clouds when they are turbulently homogeneous and are situated beneath well-manifested intercepting layers.

Personalities brought into the discussion include P. A. Molchanov (3) who first pointed out the significance of turbulent exchange in the frictional layer in formation of intra-mass cloudiness of St-Sc and Cu type; E. G. Zak (1), who developed this problem further; N. Z. Pinus (4), who wrote that the bumping of aircraft occurs at Ri -values less than or equal to 4; the author also applies known formulae of Magnus, Ferrel' and Ippolitov, A. N. (2), as well as of Laikhtman combined with coefficients of Chestnaya, I. I. (5). All six cited bibliographic entries are Slavic.

Card 3/4.3

KOZHARIN, V.

84-11-22/36

AUTHOR: Kozharin, V., Candidate of Physical and Mathematical Sciences.

TITLE: Evaluation of Icing Conditions in Stratified and Stratocumulus Clouds (Otsenka us oviy obledeneniya samoletov v sloistyx i sloistro-kuchevykh oblakakh)

PERIODICAL: Grazhdanskaya aviatsiya, 1957, Nr 11, pp.25-27 (USSR)

ABSTRACT: The conditions of icing of aircraft in stratified and stratocumulus clouds, such as the temperature, the speed of the aircraft, the local settling ratio, are dealt with, with the aim to help airmen to evaluate the icing hazards under actual flying conditions. In particular, calculated and observed interrelations of water content of the clouds with the temperatures at different altitudes and the temperature gradient within the clouds, relating to the Leningrad area, are discussed. Minimum and maximum water content values as functions of the temperature at the base of the cloud and the temperature gradient, are presented. Finally the icing intensity values in mm per min are presented as function of water contents of the cloud and the speed

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84-11-22/26

Evaluation of Icing Conditions in Stratified and Stratocumulus
Clouds (Cont.)

of aircraft, as well as the average and maximum intensities of
icing as dependent on the temperature of the cloud base and the
speed of aircraft. A table and 5 diagrams accompany the text.

AVAILABLE: Library of Congress

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AUTHOR:

Kozharin, V. S.

TITLE:

The Moisture Balance in a Cloud

PERIODICAL:

Meteorologiya i gidrologiya, 1960, No. 6, pp. 20-24

TEXT: The moisture balance of a homogeneous cloud¹⁷ extending infinitely in a horizontal direction without convection is described. It is assumed that the thermodynamic state of the cloud and that of the underlying atmospheric layer are known. The vertical temperature gradient is nearly adiabatic. The moisture currents existing in a general case along the vertical within the cloud at an arbitrary level z with respect to an immobile place (e.g. the surface of the Earth) are shown. The corresponding formulas are written down. It is shown that between the cloud and the underlying atmospheric layer a continuous moisture exchange occurs. In the cloud itself and on its lower boundary, continuous condensation and evaporation is observed. Formula (5) is written down for the moisture balance in a cloud without convection in the case of a

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stabilized state. The said formula expresses the dependence of the moisture content on the thermodynamic state of the atmospheric layer (in which the cloud is located) and on the spectrum of the cloud elements. From this formula, formula (9) is derived, on the basis of which the distribution character of the water content in the cloud as well as the water content values and the precipitation falling from the cloud may be determined. The water content distribution character for a special case is investigated according to condition (11). This condition (11) is nearly equal to actual conditions. Formulas (14), (15), and (16) are derived. The analysis of the conditions and experimental data obtained in the papers (Refs. 5, 8, and 9) shows that these formulas (14), (15), and (16) sufficiently express the general water content distribution character in clouds of various types, the order of magnitude of the water content in the cloud, and the actual precipitation falling from the clouds. The theoretical curves obtained are given in Figs. 2 and 3. In conclusion, it is found that on the basis of the interrelations and rules obtained, the moisture dynamics in the cloud as well as the evolution of the cloud as a whole may be estimated. This offers the

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possibility of finding more effective means and methods of influencing the clouds. There are 3 figures and 11 Soviet references.

X

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3.5700

AUTHOR: Kozharin, V. S.

TITLE: Balance and dynamics of moisture in a cloud under active influence

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 9, 1962, 73-74, abstract 9B450 (In collection: Issled. oblakov, osadkov i grozovogo elektrichestva, M., AN SSSR, 1961, 38-46)

TEXT: The moisture balance and dynamics in a nonconvective cloud under active influence is investigated, with allowance for the thermodynamic state of the cloud and its reaction with the surrounding medium. At the same time it is supposed that the moisture flows

$$Q_w = \rho w(S + q), \quad Q_A = - \Lambda \frac{\partial}{\partial z} (S + \eta q)$$

and
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Balance and dynamics ...

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$$Q_v = - \chi \rho v q$$

occur in a homogeneous liquid cloud of infinite horizontal extent (ρ is the air density, w is the vertical velocity, S is the specific saturation humidity, q is the specific water content, A is the turbulent mixing factor, η is the factor allowing for the degree of absorption of cloud elements by turbulent eddies, χ is the share of the water content falling on major cloud elements, and v is the rate of their precipitation under the action of gravity). These flows are presumed to be due respectively to the presence of well regulated vertical movements and to turbulence and precipitation. The solution

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$$q(z) = e^{-\int_{z_0}^z G(z) dz} \left[q_{z_0} - \int_{z_0}^z R(z) e^{\int_{z_0}^z G(z) dz} dz \right],$$

$$G(z) = G_v - G_w - \frac{\kappa p v}{\eta A} - \frac{p w}{\eta A},$$

$$R(z) = \frac{1}{\eta} \frac{\partial S}{\partial z} - S \frac{p w}{\eta A}, \quad (1)$$

(q_{z_0} being the precipitation's water content), by means of which the nature of the water content's distribution under conditions close to the actual is established, is derived for the case of steady moisture distribution in a cloud and the marginal condition that takes into account the moisture balance at the cloud's lower boundary. From analyzing correlation (1) it follows in particular that, if there are descending movements, the cloud cannot exist when the vertical temperature gradients are more than $0.16 - 0.18^\circ/100$ m. The critical gradient's magnitude will increase as vertical cur-

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Balance and dynamics ...

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rents become more strongly developed and as turbulent exchange weakens. Clouds cannot exist if there is a correlation of the magnitudes of descending currents and turbulent exchange, when

$\eta G_w \gg 6 \cdot 10^{-6} \text{ l/cm}$ and $\gamma_{cr} = 1.00^\circ/100 \text{ m}$. The weaker the development of turbulent exchange, the lower the velocity of descending movements necessary for the cloud's break-up. When a cloud with a vertical extent of 600 m, a basal temperature of 0°C , and a vertical gradient of $0.6^\circ/100 \text{ m}$ is being influenced actively, it is observed that, starting from the cloud's lower boundary, the water content's growth with altitude is first retarded and then completely ceases, provided vertical flows are absent and the few elements precipitating from the cloud evaporate in the lower boundary zone. On the whole the cloud's water content rapidly decreases as the size of the cloud elements formed in the reaction, and their contribution to the water content, increases or as the turbulent exchange weakens. In the case of the formation of drops with a radius of 250μ , when $A/p = 1 \cdot 10^5 \text{ cm}^2/\text{sec}$ and $w = 0$, the cloud will give precipitation with a water content of 0.0075 g/m^3 and an intensity of 0.054

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mm/hr on being influenced continuously. The reaction is most effective if use is made of clouds, reacting with the overlying atmosphere not only through turbulent exchange but also through well regulated ascending movements. The critical values of the quantity G_v , at which the cloud's water content becomes negligibly low (less than 0.001 g/m^3) and the cloud turns into haze, grow sharply as the temperature rises and the temperature gradient increases; when the cloud is in this thermal state, the values of G_v decrease from lower to upper levels. Using the dependence of the critical value of G_v on the atmosphere's thermal state, and having data about the magnitudes of χ and A , it is possible to calculate the rate of cloud drop precipitation necessary for the cloud's dispersion and, from this rate, to compute the critical particle size at which the cloud breaks up. 20 references. [Abstracter's note: Complete translation.]

Card 5/5

KOZHARIN, V.S.

Calculating the height of the lower boundary of low stratus.

Trudy GGO no.126:62-69 '62.

(MIRA 15:7)

(Clouds)

IVANOV, V.I.; KOZHARIN, V.Ye.

Movable pumping equipment mounted on a GAZ-63 automobile. Stroi. ind.,
stroi. mash. i mekh. no.1:3-7 '62. (MIRA 17:9)

1. Leningradskiy filial Vsesoyuznogo instituta po proyektirovaniyu
organizatsii energeticheskogo stroitel'stva.

PYKHTIN, P. I.; BREDA, V. N.; KOZHARINOV, B. I., tekhnolog

~~Assembly-line methods in preparing containers.~~ Tekh.prom.
15 no.6:38-40 Je '55. (MIRA 8:7)

1. Direktor mekhanicheskogo zavoda Tashkentskogo khlopchatobumazhnogo kombinata imeni Stalina (for Pykhtin) 2. Nachal'nik otдела труда i zarplaty zavoda (for Breda).
(Box making)

L 10967-67 EWT(1) SCTB DD/QD

ACC NR: AT6036584

SOURCE CODE: UR/0000/66/000/000/0209/0210

39

AUTHOR: Kozharinov, V. I.; Magedov, V. S.; Shadrintsev, I. S.

ORG: none

TITLE: The problem of condensing physiological information [Paper presented at the Conference on Problems of Space Medicine held in Moscow from 24 to 27 May 1966]

SOURCE: Konferentsiya po problemam kosmicheskoy meditsiny, 1966. Problemy kosmicheskoy meditsiny. (Problems of space medicine); materialy konferentsii, Moscow, 1966, 209-210

TOPIC TAGS: biotelemetry, space medicine, space physiology, bioinstrumentation, biocybernetics, biometrics

ABSTRACT: Conducting prolonged physiological experiments during which it is desirable to obtain a maximum volume of information with memory devices of limited means makes consolidation of information very important. There are two possible approaches to this problem. Information must be subjected to preliminary processing, or else the most significant information criteria must be identified.

Preliminary processing involves the selection of definite measured parameters from the processes under investigation. For example, electrocardiograms can be used to measure pulse frequency, duration

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of the phases of the cardiac cycle, the amplitude of individual peaks, etc. Average as well as individual magnitudes of these parameters can be measured. By averaging results for 1—2 sec, it is possible to reduce the upper boundary frequency of channels of memory devices by more than 100-fold. Even if, instead of measuring each of the controlled high-frequency processes, 10 or 15 of its changed parameters are registered, the capacity of memory devices will be reduced ten-fold during registration periods of the same duration.

Preliminary processing of physiological information will substantially simplify and speed up the analysis and processing of results of the experiment as a whole. It is much easier to feed information to the computer in this form, since the processing of high frequency records such as EKG, EEG, etc., requires the use of high-speed equipment with very large memory storage, which is not always available.

Before an experiment is begun it is usual to obtain background data on all phenomena under investigation. Those measurements of the phenomena being investigated which contain significant changes in comparison with background data or data from previous experiments are considered most informative. It is not reasonable to register information

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which does not contain new data in comparison with data registered earlier.

This method makes it necessary not only to work out methods of recognition of graph images, but also to differentiate between them in fine detail. In some cases the problem can be simplified and reduced to a comparison not of the graph curves themselves, but of the more important changed parameters of those graphs. In this way unnecessary information will be eliminated. Thus, during the course of the experiment the volume of registered information will be significantly reduced, without reducing the diagnostic value of the experiment.
[W.A. No. 22; ATD Report 66-116]

SUB CODE: 06 / SUBM DATE: 00May66

Card 3/3 ^{b7p}

KOZHARINOV, V.V., inzh.; KOTOV, M.B., inzh.; LEVIN, L.E., inzh.; YAKUB, Yu.A.,
inzh.

Standardization of the structural designs of 35 and 110 kv. outdoor
power distribution systems. Elek.sta.33 no.1:45-51 Ja '62.

(MIRA 15:3)

(Electric power distribution)(Electric substations)

YAKUB, Yu.A., inzh.; KOZHARINOV, V.V., inzh.

Structures of outdoor-type 110- 550 kv. power distribution
systems. Elek. stat. 35 no.1:43-51 Ja '64. (MIRA 17:6)

LIPKIND, Vera Mikhaylovna, kandidat tekhnicheskikh nauk; VASILENKO, P.I., professor, redaktor; KOZHARSKIY, A.D., redaktor; FRIDKIN, A.M., tekhnicheskii redaktor

[Concrete dams of hydroelectric power stations] Betonnye plotiny gidroelektrostantsii. Pod red. P.I.Vasilenko. Moskva, Gos. energ. izd-vo, 1956. 246 p. (MIRA 9:7)
(Hydroelectric power stations)

KOZHARSKIY, A. M.

Mekhanizatsiia vozdeleyvaniia i pervichnoi obrabotki l'na [Mechanization of the cultivation and primary processing of flax]. Smolensk, Smolenskoe knizhnoe izd., 1953. 182 p.

SO: Monthly List of Russian Accessions, Vol. 7 No. 1 April 1954.

KOZHARSKIY, A.M.; FATCHIKHINA, O.Ye., kand.sel'skokhozyaystvennykh nauk,
starshiy nauchnyy sotrudnik

Winning and using peat fertilizers in Smolensk Province. Zemledelie
8 no.12:56-62 D '60. (MIRA 13:11)

1. Zaveduyushchiy sel'skokhozyaystvennym otdelom Smolenskogo oblast-
nogo komiteta kommunisticheskoy Partii Sovetskogo Soyuza (for
Kozharskiy).
2. Tsentral'naya torfobolotnaya opyt'naya stantsiya (for Fatchikhina)
(Smolensk Province--Peat)

AUTHOR: Kozharskiy, A.V. Senior Engineer 111-58-7-17/27

TITLE: Setting up an Operating Cable Under Constant Air Pressure
(Ustanovka deystvuyushchego kabelya pod postoyannoye voz-
dushnoye davleniye)

PERIODICAL: Vestnik svyazi, 1959, Nr 7, pp 25-27 (USSR)

ABSTRACT: Inserts with gas-tight cable boxes are normally used to iso-
late sections of soil-loaded cable, while a check is made of
the hermeticity of the casing by passing through compresses
air from one check point to another. The author describes
the method he has been using, whereby cylinders of compres-
sed air are attached to the ends of the isolated section by
specially soldered nipples at junction points of the cable.
The pressure is then measured at intervals along the cable
by a manometer. These check points are sited every 2.5 -
3 km. Two methods are described: 1) a compressed air cylin-
der is connected to one end of the section only and the leaks
in the casing will show up as breaks in the continuity of the
pressure straight-line graph. The angle of the break indica-
tes the extent of the leak. If air is then passed through
from the other end and a pressure graph plotted, the point
of intersection of the two lines will indicate the side of

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Setting up an Operating Cable Under Constant Air Pressure 111-58-7-17/27

the leak. In the second method air cylinders are connected simultaneously to both ends of the sector and a pressure versus distance graph plotted. The first method was found to be most suitable, passing air through alternately from the two ends of the sector. The method can be combined with that of passing radioactive gas through the cable. The gas is introduced into the suspected section, determined first of all by the compressed air method, and the place of the leak detected accurately by means of a radiometer. The special reinforced concrete control points installed every 4 km and used by the author for his experiments are described.

There are 3 graphs and 1 diagram.

ASSOCIATION: Remontno-vosstanovitel'naya brigada Kiyevskogo MKU (The Repair and Maintenance Team of the Kiev MKU)

1. Cables—Installation 2. Compressed air—Applications

Card 2/2

KOZHARSKIY, L. A.,

"A Method of Constructing Digital Differential Analyzers," Voprosy teorii matematicheskikh mashin; sbornik pervyy (Problems of the Theory of Mathematical Computing Machines; Collection of Articles, V. 1) Moscow, Fizmatgiz, 1958. 230 p.

This article consists of the following sections: 1) Usual method of constructing a digital differential analyzer; 2) Proposed method of constructing a digital differential analyzer.

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SOV/112-59-21-44302

Translation from: Referativnyy zhurnal: Elektrotehnika, 1959, Nr 21, pp 111 - 112 (USSR)

AUTHOR: Kozharskiy, L.A.

TITLE: On one Method of Designing Digital Differential Analyzers W

PERIODICAL: V sb.: Vopr. teorii matem. mashin. I. Moscow, Fizmatgiz, 1958, pp 219-230

ABSTRACT: The mode of operation and the selection of scales for an ordinary digital differential analyzer functioning according to the system of integration by rectangles is described. The nature of the error of a digital differential analyzer is analyzed. It consists of the error of the initial stage of computation ("starting error"), which is due to the absence of increments at the beginning of the computation, the error arising in integrators while forming individual increments, and the error arising as a result of accumulated errors of numerical integration. The cumulative error of the method of solution limits the possible time of solution. It is maintained, that an m-fold increase in accuracy requires an m-fold time of solution. It is suggested to go over to a more accurate itera-

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On one Method of Designing Digital Differential Analyzers SOV/112-59-21-44382

tive method of numerical integration with application of full-digit numbers for representation of increments of integrals by the formula

$$\Delta z_k^{(i)} = \left[y_k + 1/2 \Delta y_k^{(i-1)} \right] \Delta x_k^{(i-1)},$$

where k is the number of the step of integration and i is the iteration number. It is proposed to carry out this process by means of a series of tracks of the magnetic drum and a single-digit adder. A scheme for realization of the proposed method of solution is supplied. The proposed method makes it possible to solve the equation $y'' + y = 0$ with an accuracy of 0.024% in 30 minutes, whereas the solution with a digital differential analyzer with such an accuracy calls for 1 hour 20 minutes. A graph showing a considerably more favorable relation between the accuracy and the time of solution than in ordinary digital differential analyzers is supplied. It is maintained that a decimal digital differential analyzer designed by the proposed method will be simpler and more economical. 6 illustrations, 6 references.

G.A.Kh.

Card 2/2

KOZHASOV, O.S.

"Basic Means of Increasing the Productivity of Labor in Sovkhozes
in Virgin Lands";

dissertation for the degree of Candidate of Economic Sciences
(awarded by the Timiryazev Agricultural Academy, 1962)

(Izvestiya Timiryazevskoy Sel'skokhozyaystvennoy Akademii, Moscow, No. 2,
1963, pp 232-236)

KOZHASOV, O.S., agronom-ekonomist

Economic aspects of using herbicides in grain growing. Zashch. rast.
ot vred. i bol. 5 no.4:13-14 Ap '60. (MIRA 13:9)

1. Moskovskaya ordena Lenina sel'skokhozyaystvennaya akademiya im.
K.A. Timiryazeva.
(Grain) (Herbicides)

41443

S/120/62/000/005/025/036
E192/E382

7.4/60

AUTHORS: Kaipov, D.K., Kozhaspayev, N. and Pavlov, A.F.

TITLE: Stabilization of the gain of photomultipliers

PERIODICAL: Pribery i tekhnika eksperimenta, no. 5, 1962,
151 - 153

TEXT: The stabilization system is suitable for spectro-
metric and time-resolving photomultipliers and is based on
adjusting their supply voltage as a function of a control
signal produced by a coincidence circuit. The stabilization system
is illustrated in Fig. 1. The amplifier, based on tube Π_1

($\Pi_1 = T_1$), has a gain of about 10 and the pulses to this
amplifier are fed either from the anode or the dynode of the
photomultiplier. The amplifier is stabilized by a strong
negative feedback. The coincidence circuit, based on T_2 , is also
very stable and its pedestal is low. One of the inputs of the co-
incidence circuit receives a pulse from the univibrator based on
 T_{10} . After passing through the circuit, it is applied

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Stabilization of

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to the amplitude-detector T_3 , whose time constant $R_{16}C_5$ is matched with the time constant of the high-voltage rectifier. This is followed by a cathode-follower T_4 . A vibrating relay $P\Gamma-5$ is used as a voltage-chopper, the reference-voltage level being provided by a divider R_{18}/R_{19} . The reference voltage is derived from a 75-V stabilizer tube T_8 , which is first stabilized by T_9 (see Fig. 1). The low-frequency amplifier, based on T_5 , T_6 and T_7 , produces a signal which is applied to the phase-detector, which determines the sign of the difference and produces a direct voltage proportional to the difference between the direct component of the detected pulse voltage due to the standard sparks and the reference source. The phase-detector is coupled to the rectifier and connected in series with the source of the reference voltage. These two are then connected into the grid circuit of the first tube of the DC amplifier. The phase-detector produces a maximum output of

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Stabilization of

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± 50 V and this is sufficient for controlling the high voltage over a range of ± 500 V. The standard pulse flashes or sparks are produced by a thyatron, type TX -4B (TKh-4B) (see Fig. 1). This is connected across the anode load of T_{11} . T_{11} and T_{12} are provided with strong negative feedback. The above stabilization circuit can be used successfully for photomultipliers operating in "fast-slow" coincidence systems. There are 5 figures.

ASSOCIATION: Institut yadernoy fiziki AN KazSSR
(Institute of Nuclear Physics of the AS KazSSR)

SUBMITTED: August 28, 1961

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PAVLOV, A.P.; KOZHASPAYEV, D.

Amplification stabilization circuit for photomultipliers
interconnected for coincidences. Izv. i tekhn. eksp. 9
no.1:210-211 Jan. '64.

(NIRA 17:4)

1. Institut yadernoy fiziki AN Kazan.

BELKIN, Yu.; KALINKIN, A.; KOZHATKIN, G.; LOBKO, P.; KRYUKOV, V.,
red.

[Device for the dynamometry of mounted machines; results
of comparative tests] Pribory dlia dinamometrirovaniia
navesnykh mashin; rezul'taty sravnitel'nykh ispytaniy.
Moskva, Biuro tekhn. informatsii i reklamy, 1964. 103 p.
(MIRA 18:9)

BARANSKIY, K.N.; KOZHATKIN, V.A.; VADKOVSKIY, V.N.

New demonstration simulators for an electricity course. Usp.
fiz. nauk 84 no.4:730-731 D '64 (MIRA 18:1)

KOZHATSKIY, L. I.

SHISHKIN, B. K., professor; ROMANKOVA, A. G., kandidat biologicheskikh nauk, starshiy nauchnyy sotrudnik; MARKOV, G. S., doktor biologicheskikh nauk, dotsent; DANILEVSKIY, A. S., kandidat biologicheskikh nauk, dotsent; SHTEYNBERG, D. M., doktor biologicheskikh nauk; LOMAGIN, A. G. aspirant; SELL'-BEKMAN, I. YL. mladshiy nauchnyy sotrudnik; ZHINKIN, L. N., doktor biologicheskikh nauk, professor; IPATOV, V. S., student V kursa; KOZLOV, V. Ye., kandidat biologicheskikh nauk, starshiy nauchnyy sotrudnik; KARTASHEV, A. I., kandidat biologicheskikh nauk starshiy nauchnyy sotrudnik; NITSENKO, A. A., starshiy nauchnyy sotrudnik; VASILEVSKYAA, V. K., doktor biologicheskikh nauk, dotsent; RYUMIN, A. V., kandidat biologicheskikh nauk; NAUMOV, D. V., kandidat biologicheskikh nauk, mladshiy nauchnyy sotrudnik; KHOZATSKIY, L. I., kandidat biologicheskikh nauk, dotsent; GOROBETS, A. M., kandidat biologicheskikh nauk, starshiy nauchnyy sotrudnik; GODLEVSKIY, V. S. assistant; GERBIL'SKIY, N. L., doktor biologicheskikh nauk professor; ALEKSANDROV, A. D., professor; KOLODYAZHNYI, V. I.; TURBIN, N. V.; ZAVADSKIY, K. M.

[Theory of species and the formation of species]. Vest. Len. un. 9 no. 10:43-92 0 '54. (MLRA 8:7)

1. Chlen-korrespondent Akademii nauk SSSR (for Shishkin, Aleksandrov)

(Continued on next card)

SHISHKIN. B. K., professor; ROMANKOVA, A. G., kandidat biologicheskikh nauk, starshiy nauchnyy sotrudnik, and others.

[Theory of species and the formation of species]. Vest. Len. un. 9 no. 10:43-92 O '54. (MLRA 8:7)

2. Leningradskiy gosudarstvennyy universitet (for Shishkin, Romankova, Markov, Ipatov, Kozlov, Kartashev, Godlevskiy, Gerbil'skiy, Aleksandrov)
3. Zoologicheskiiy institut Akademii nauk SSSR (for Shteynberg, Naunov)
4. Kafedra entomologii Leningradskogo gosudarstvennogo universiteta (for Danilevskiy).
5. Kafedra darvinizma Leningradskogo gosudarstvennogo universiteta (for Lomagin, Gorobets).
6. Kafedra geobotaniki Leningradskogo gosudarstvennogo universiteta (for Nitsenko).
7. Kafedra botaniki Leningradskogo gosudarstvennogo universiteta (for Vasilevskaya).
8. Kafedra zoologii pozvonchnykh Leningradskogo gosudarstvennogo universiteta (for Khozatskiy).
9. Leningradskoye otdeleniye Vsesoyuznogo instituta udobreniy, agropochvovedeniya i agrotekhniki (for Sell'-Bekman)
10. Institut eksperimental'noy meditsiny Akademii meditsinskikh nauk SSSR (for Zhinkin)

(Origin of species)

AUTHOR: Kozhayev, A.F., Engineer SOV/135-58-12-8/20

TITLE: A Modernized "MSM-150" Butt Welding Machine for Welding Austenite Steel Pipes (Modernizatsiya stykovoy mashiny MSM-150 dlya svarki trub iz austenitnykh staley)

PERIODICAL: Svarochnoye proizvodstvo, 1958, Nr 12, pp 27-29 (USSR)

ABSTRACT: In order to develop welding of austenite steel pipes and to raise the quality of welded perlite steel pipes the "MSM-150" type butt welding machine was modernized by improving some of its characteristic features, such as the power it develops, its capacity, automatic control of the power mechanism, improved design of clamping devices etc. The machine and its operation are described in detail and welding parameters are given. The new device was tested in practical use and produced butt welds in austenitic, low-alloy and low carbon steels of a consistently high quality. It can be used for flash welding with preheating of austenite pipe butts of

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A Modernized "MSM-150" Butt Welding Machine for Welding Austenite Steel Pipes

up to 650 sq mm cross section, when it develops a rate
up to 80 mm/second.
There are 2 diagrams, 1 graph and 2 tables.

ASSOCIATION: Podol'skiy mashinostroitel'nyy zavod im. Ordzhonikidze
(The Podol'sk Machinebuilding Plant imeni Ordzhonikidze)

Card 2/2

AUTHOR: Kozhayev, A.F., Engineer SOV/135-59-1-12/18

TITLE: A New Universal Automatic Welder (Novaya universal'naya avtosvarochnaya ustanovka)

PERIODICAL: Svarochnoye proizvodstvo, 1959, Nr 1, pp 37-40 (USSR)

ABSTRACT: Information is given on a new universal installation for the automatic arc welding under flux of steel up to 25 mm thick, from below. The following processes can be performed with the new machine: welding of cylindrical shells of 1,200-1,400 mm diameter and up to 2,500 mm length with longitudinal external and internal seams; welding of cylindrical drums, made of separate shells of 10 - 12 m length, 1,200-4,00 mm in diameter and up to 10 tons weight; welding of cylindrical shells of 800 - 1,200 mm in diameter with longitudinal and annular external seams and internal manual welding; welding of sheet steel with single and two-side welds; multiple-layer

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A New Automatic Welder

SOV/135-59-1-12/18

welding of steel of over 25 mm thick. The information includes a detailed description of the design and operation of the machine. There are 3 sets of diagrams.

ASSOCIATION: Podol'skiy mashinostroitel'nyy zavod imeni Ordzhonikidze (Podol'sk Machine Building Plant imeni Ordzhonikidze)

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E193/E483

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AUTHORS: Slepak, E.S., Candidate of Technical Sciences and
Kozhayev, A.F., Engineer

TITLE: Resistance Welding of Steam Superheater Pipes in
Boilers for Heavy-Duty Service

PERIODICAL: Energomashinostroyeniye, 1960, No.1, pp.37-40

TEXT: Owing to critical service conditions of boilers ПК-30
(PK-30) and ПК-37 (PK-37), their steam superheaters have to be
made of stabilized austenitic steel 3M 695P (EI695R), which
contains 0.0083% B and 1.28% Nb, and which has been found to be
more suitable for resistance welding than the unstabilized variety.
The object of the investigation, described in the present paper,
was to obtain more data on the effect of the boron and niobium
additions on weldability of austenitic steels of this type. To
this end, the effect of various factors on the mechanical
properties of resistance-welded tubes (32 mm O.D., 7.5 mm wall
thickness) was studied. In the preparation of the first batch
of experimental test pieces, two resistance-welding schedules
were used, the main differences between which are tabulated below:
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Resistance Welding of Steam Superheater Pipes in Boilers for
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Process Parameter	Schedule	
	I	II
Secondary voltage (no load), V	6.4 - 6.6	6.5 - 7.0
Duration of the pre-heating cycle, sec.	4.0 - 6.0	4.0 - 5.0
"Burn off" allowance, mm	6.0 - 6.5	7.0 - 8.5
Average rate of fusion, mm/sec.	3.4 - 3.6	3.0 - 3.5
"Push up" allowance, mm	5.0 - 6.0	5.5 - 6.5
Upsetting under current, mm	3.5 - 4.0	3.0 - 3.5
Upsetting pressure, kg/mm ²	14.0 - 16.0	12.0 - 14.0

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Tubes welded under these conditions could be bent through 180° without cracking. However, in some of the tubes, welded according to Schedule I, tears (sometimes extending throughout the wall of the tube) were found after the bending test. These defects had developed on both sides of the weld, 1.5 to 2.5 mm away from the seam. Fracture of specimens, tested for tensile and impact strength, also took place in these regions, whose hardness was 200 HB, as compared with 144 to 170 HB of the adjacent zones. The results of the next series of experiments showed that the mechanical properties (U.T.S., yield point, elongation, reduction of area, impact strength) of the weld (not subjected to any heat-treatment) were practically the same as those of untreated steel. No embrittlement of the weld was observed in steels EI695 or EI694 (~~SM~~ 695 or ~~SM~~ 694), containing 0.7% Nb, but increasing the Nb content to 0.5% led to the development of brittle fracture. It was inferred therefrom that the observed defect was caused by the formation of intermetallic

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compounds in the region heated to a high temperature, the effect becoming significant only in steels with a high niobium content. The fact that welds in steel EI695R, containing 1.28% Nb, were ductile when welding Schedule No. II had been used, was attributed to larger "burn off" and "push up" allowances, as a result of which the embrittled parts of the components were fused and squeezed out from the weld. (It has been shown experimentally that the embrittlement of the near-weld region takes place mainly during the pre-heating cycle.) These findings indicated that continuous flush welding should be used for joining steels of this type. However, in the case of tubes with small inside diameter, flush welding with a large "push up" allowance may cause difficulties in the removal of large internal burrs, formed by the large quantity of metal squeezed out from the weld during the upsetting stage. It was for this reason that the effect of heat treatment on the properties of welds, made according to Schedule I, was investigated. The heat

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treatment, carried out in the welding machine, consisted in heating the weld to 1000 to 1200°C for 1 to 5 min. No tendency to cracking during bending tests was observed in welds subjected to this treatment, which had no adverse effects on other properties of the steel. Best results were obtained after 1 to 3 min at 1200°C, this treatment bringing about dissolution of the phase precipitated during welding, homogenization of the microstructure of the weld, and formation of coarsely-crystalline austenite with uniformly distributed carbides. Thus, it was established that the problem of making ductile welds in stainless steel tubes, without the formation of unduly large internal burrs, can be solved by resistance welding according to Schedule I, followed by the heat treatment described above. In the next stage of the investigation, the effect of ageing at 660 to 700°C (i.e. at the service temperature) on the microstructure and mechanical properties of the welds, was studied. It was found that the effect of ageing on both the weld and steel

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itself was the same in that their U.T.S. and yield point increased and their plasticity decreased with increasing time at the ageing temperature. A sharp decrease in the impact strength was observed in both cases after 500 h at 700°C; however, further ageing at this temperature caused no additional deterioration in this property. It was found, also, that tubes, welded according to Schedule I without subsequent heat treatment and aged at 700°C, could be bent through 180° without cracking. The object of the next series of experiments was to study the problem of de-burring of welded tubes whose bore (in the case of tubes 17 mm I.D.) was almost completely blocked after the flush welding operation. The pneumatically operated de-burring tool, illustrated in Fig.5, used to get jammed in the metal when used on tubes welded according to Schedule I. This difficulty was overcome by subjecting the weld to the same heat treatment that had been applied in order to render the weld more ductile. After this treatment, the metal blocking the bore of the tube

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disintegrated into several small fragments under the action of the de-burring tool and could be easily removed without causing jamming of the tool. In the last stage of the present investigation, resistance welding of unlike (austenitic and pearlitic) steels was used. To this end, the effect of 3000 h ageing at 600°C on the properties of welds between steel EI695R on one side and steel 15XM (15KhM) or 12XMF (12KhMF) on the other, was determined. Whereas the impact strength of the EI695R + 12KhMF combination increased slightly in the course of ageing, that of the EI596R + 15KhM welds sharply decreased. This effect was attributed to the fact that steel 12KhMF contains 0.17% vanadium, which forms stable carbides, whereas no carbide-forming elements are present in steel 15KhM, as a result of which carbon diffuses freely from the latter steel to the austenitic steel. The resultant decarburization of the pearlitic steel and carburization of the austenitic steel leads to the decrease in

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Resistance Welding of Steam Superheater Pipes in Boilers for
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impact strength observed in welded joints between these two
steels. There are 7 figures, 2 tables and 3 Soviet references. X

Fig.5.

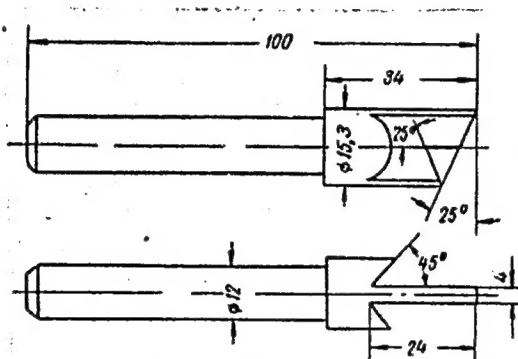


Рис. 5. Общий вид дорна.

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